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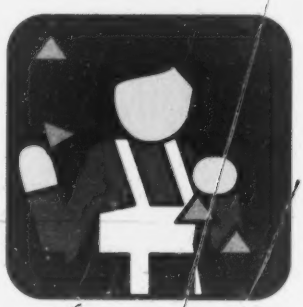
State of Unions: Weaker in U.S., Arizona

A "Manufacturing Climate Study" conducted a few years ago by the consulting firm of Grant Thornton, Inc. showed that factory labor union members in Arizona made up a mere 3.7 percent of all Arizona 1989 manufacturing employees. That percentage ranked Arizona 48th among all states (see table 1), ahead of only South Carolina (3 percent) and South Dakota (2.7 percent).

And in a similar survey in 1984, Arizona ranked 47th, with 5.3 percent of its manufacturing workers unionized. The drop in Arizona's share of unionized manufacturing employees between 1984 and 1989 — and an overall 24 percent decline in members, from 9,200 to 6,900 —



came despite total Arizona factory employment growth of 8.5 percent between those two years.

But the decline in the percentage and number of Arizona manufacturing workers in unions is just one manifestation of a national trend of declining union membership in manufacturing and all other major private sectors since union participation peaked in the mid-1950s.[1] Specifically in manufacturing, however, U.S. union membership declined almost 16 percent between 1984 and 1989, despite manufacturing employment staying about the same (see Table 2).[2]

On the other hand, Arizona's low ranking of union membership as a percentage of manufacturing employment is also a reflection of Arizona's history and of the state's legal and political environment for unions. As a "right to work" state, Arizona has been fallow ground for union organization.[3]

But given the trend of ever-decreasing unionism from an already low base, one might ask: Will Arizona private sector labor unions soon go the way of the dinosaurs, or will extinction be averted by some new resurgence of the need for labor to organize? In order to suggest answers to that and related questions, it is important to first review the benefits attributed to unions.

Union, High Wages Tied?

A principal benefit ascribed to unions has been that union wages tend to be higher than non-union wages.[4] And three U.S. Department of Labor surveys have repeatedly shown that there is a wage differential attributable to unions: 1) the Current Population Survey (CPS), 2) Industry Wage Survey, and 3) the Employment Cost Index.[5]

Economic textbooks acknowledge that the difference ranges from 10 to 25 percent and was as high as 20 to 30 percent in the 1970s.[6] Of course, there is considerable variation by industry, occupation, race and sex.[7]

While these same textbooks contend union wage premiums are real, they argue that they come at the expense of non-union workers and consumers. One cost to non-union workers is lower wages than would have been paid if employers didn't have to pay premium wages to union members. One cost to consumers is higher prices for products or services supplied with union labor.

In addition, economic textbooks argue that unions do not increase labor's overall share of total income.[8] Rather, increasing the total productivity of labor — through improved technology, better management, more capital, and increased worker skills — is the only way to raise real wages of all labor.[9]

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The more genuine, if non-pecuniary, benefits of labor unions have come from instillment of a sense of empowerment and establishment of on-the-job due-process for workers. Without the system of industrial jurisprudence that has evolved in large part from union efforts, workers would otherwise believe that the status and character of their employment existed solely at the whim of management, one economist says.[10]

In fact, there are many characteristics of employment most workers enjoy today, at least in part, because of the historical efforts of unions. Examples include eight-hour work days,[11] workmans' compensation for injury on the job, unemployment insurance, paid vacations, paid holidays, and employer-paid health insurance.

Counter Trends in Public Sector

While U.S factories have become less and less unionized, state and local government unions have been growing at rates about equal to government employment growth. According to the 1982 and 1987 *Census of Governments*, state and local government union membership and state and local government employment grew at similar rates between those two years — 8.7 percent and 7.8 percent, respectively (see Table 3).[12] And in Arizona during that five-year period, state and local government employment grew 15.1 percent (ranking second nationally), while government union membership grew 15.2 percent (ranking 10th).

Meanwhile, the share of Arizona state and local government workers in unions remained constant, at 23 percent, between 1982 and 1987, as did the state's ranking among all states, at 35th. The national average for the share of state and local government employers in unions also held steady during those two years, at a higher level of 37 percent (see Table 4).

So why is union appeal waning in the private sector, but holding steady at a significantly higher share in the public sector? In the words of David Mendoza, spokesman for the Arizona affiliate of the American Federation of State, County and Municipal Employees (AFSCME), public unions got a late start relative to the private sector and are only now catching up.

Thomas Karier of Eastern Washington University contends unions are not a significant factor in a country's ability to be competitive. Karier points out that the United States has among the lowest unionization rates overall in the world today.

Richard Kearney supports that view in his book, "Labor Relations in the Public Sector." Kearney says there were three principal factors inhibiting public employee unionism and collective bargaining prior to the 1960s: ideology, the nature of government employment (predominantly white-collar jobs) and an unfavorable legal environment.[13]

Since the 1960s, the legal environment has changed with the most significant legal change being President John Kennedy's Executive Order 10988 of 1962. That order guaranteed rights of federal employees to unionize and bargain collectively.[14] Another contributing factor was the "one man, one vote" judgments of the U.S. Supreme Court that wrested control of the Congress and state legislatures from less pro-union rural interests.[15, 16]

The desire for empowerment may be another reason for continuing appeal in the public sector. State and local government employees' benefits and working conditions are under the control of state legislatures, city councils, boards of county supervisors, and school district boards. Most of these are elective offices having little direct contact with most of the governing body's employees.

Says one government employee union member (who wishes to remain anonymous) when speaking of his reasons for joining AFSCME: "I just want to be sure there is someone representing my interests before the state Legislature and that legislators do not hear only from big utilities, large corporations, and the chambers of commerce."

Governments have historically used the doctrine of "sovereignty" to inhibit the formation of public unions and to prohibit collective bargaining.[17] The doctrine of sovereignty holds that the process of collective bargaining impinges on elected officials' ability to represent the will of the people. Legal and academic critics, however, have argued that the sovereignty doctrine doesn't hold water in its application to public unions, because American governments have been delegating aspects of the peoples' sovereignty through contracts with private-sector entities and by other means for more than 200 years.[18]

In Arizona, a bill before the most recent session of the state Legislature (SB 1384) would have enabled state employees to bargain collectively. The bill passed the Senate along party lines (Democrats for, Republicans against), but died in the Government Relations Committee of the House.

Mendoza says the right to bargain collectively implies the right to settle impasses between labor and management by either strikes or binding arbitration. Mendoza notes that a bill similar to the one in the Arizona legislature became law last year in New Mexico. Government labor impasses in New Mexico are now settled by binding arbitration, he says. New Mexico, however, is not a "right-to-work" state, and has more of a pro-union history.

Table 1

Manufacturing Employment and Manufacturing Unionized Employment, in Selected States, 1984 and 1989

(In Thousands)

State	Manufacturing Union Employment		Rank by Union Employees		Percentage of Manufacturing Unionized		Rank by Percent Unionized	
	1984	1989	1984	1989	1984	1989	1984	1989
Michigan	480.9	499.5	3	2	50.7%	51.7%	1	1
New York	672.1	559.7	1	1	50.4	47.2	2	2
Hawaii	9.7	8.9	39	37	44.1	41.4	3	3
Ohio	468.8	446.4	4	4	41.6	39.8	4	4
Pennsylvania	457.2	412.7	5	5	40.7	39.3	7	5
California	508.7	483.4	2	3	24.7	22.4	20	16
Colorado	21.1	18.5	32	33	10.9	9.6	40	37
New Mexico	5.6	4.0	44	44	15.3	9.4	31	38
Nevada[1]	1.6	1.4	48	48	7.6	5.4	45	45
Utah[1]	6.7	4.6	42	42	7.2	4.5	46	47
Arizona[1]	**9.2**	**6.9**	**40**	**40**	**5.3**	**3.7**	**47**	**48**

Note: 1) Right-to-work state

Source: *Census of Manufacturers*, U.S. Dept. of Commerce, Bureau of Census, 1986, 1991

Recent Historical Precedents

While unions have continually had to face challenges to their demands for work-related improvements by management, government, the legal structure of society and, perhaps more significantly, the free market, recent historical events have been battering unions to the point of peril.

Nearly a decade ago, President Reagan began the onslaught by firing 13,000 striking federal aircraft controllers. Most of these strikers were later replaced by non-union employees.

In Arizona, the early 1980s brought a significant challenge to unions of copper-mining employees. Just as copper mining was on the brink of new technological advancements in extraction methods,[19] there was a strike by workers of the Phelps Dodge mine in Morenci. A fear of potential violence between copper workers and company officials, as well as fear for public safety, prompted then-Gov. Bruce Babbitt to send in units of the Arizona National Guard and Arizona Department of Public Safety to keep order.

Phelps Dodge was able to bring in replacement workers and continue operations at a reduced level, and later hold an election among remaining copper mining workers that disenfranchised the union. In fact, 13 separate unions were voted out.[20] Within two years of that strike, employment in copper mines throughout Arizona was reduced by half from about 24,000 workers to less than 12,000.

While it was then low market demand for copper, and later the technological advance of metals extraction by improved processes, that led to the majority of copper mining layoffs, Arizona copper unions have not since enjoyed the same power and effectiveness they were able to exercise before the Morenci strike.

Holsum Bakery Dispute

More recently, Holsum Bakery workers in Phoenix walked off the job in June 1991 after reaching an impasse with the company regarding the firm's plan to replace their union-controlled pension system with a company-administered program.[21] By October 1991, when the union finally gave in to company terms, the bakery was operating with replacement workers. Some union members were hired back, but many were not.

According to William Van Dine, business agent for the Bakers Union Local 232, the union is suing Holsum Bakery for unfair labor practices. Up to now, there have been a number of hearings on the issue by the National

Labor Relations Board and the courts, but no judgments rendered.

Van Dine says many of the workers preferred to lose their jobs, rather than give in on the pension issue. And as of mid-June, there were 143 former Holsum Bakery employees still paying union dues, Van Dine says; some have new jobs, and some are still unemployed.

Van Dine says the company has already conducted a poll of present employees to determine if they wish to be represented by the union. Bob Hans, Holsum Bakery's human resources manager, confirms that a poll was taken in December. The poll indicated that the employees did not wish to have the union represent them, he says. Nevertheless there has not been any officially supervised union certification election by the National Labor Relations Board, because hearings about the strike are still going on before the NLRB.

Hans also points out that there are still two other unions representing some Holsum Bakery employees. These include the machinists' union, and the Teamsters Union. Neither of these unions participated in the bakers' union strike or were affected by events that followed, he says.

Table 2

Growth Rates of Manufacturing Employment and Manufacturing Unionized Employment, in Selected States, 1984-1989

	Mfg. Emp. Growth Rate	Rank	Mfg. Unionized Emp. Growth Rate	Rank
Florida[1]	7.1%	16	12.1%	1
Virginia[1]	1.2	31	7.4	2
Michigan	1.9	30	3.9 -	3
Deleware	2.9	27	1.9	4
Mississippi[1]	11.1	7	-0.4	5
California	4.8	22	-5.0	8
Colorado	-0.6	33	-12.4	20
Nevada[1]	20.4	3	-14.5	25
Arizona[1]	**8.5**	**13**	**-24.2**	**39**
New Mexico	17.0	4	-28.1	42
Utah[1]	9.6	11	-31.5	47

Note: 1) Right-to-work state

Source: *Census of Manufacturers*, U.S. Dept. of Commerce, Bureau of Census, 1986, 1991

Replacing Striking Workers

Currently, an employer can legally bring in permanent replacements when workers strike over economic issues, rather than unfair labor practices.[22] A bill introduced this year in the U.S. Senate (SB 55), however, proposed to change the law to prohibit permanent replacement of strikers (for any reason), although a similar bill last year was passed by both houses of Congress, then successfully vetoed by the President. This year, the bill didn't make it out of the Senate, but the issue has become a part of the presidential election rhetoric. President Bush still opposes the bill, but Democratic candidate Gov. Bill Clinton supports it.[23]

One recent strike attracting national attention occurred at the Caterpillar Inc. plant in Peoria, Ill., which makes heavy construction equipment. When contracts were up for renegotiation at Caterpillar in December 1991, members of the United Auto Workers (UAW) union hoped to duplicate terms of a recent contract between Deere & Co. and its UAW union workers.

Donald Fites, Caterpillar's new CEO, however, offered a less-lucrative deal than Deere employees received, so the union went on strike.[24] After the third offer from the company was rejected by the union, Fites dug in his heels. He threatened replacement of all strikers who did not come back to work under the terms of his last offer and backed the threat by placing want ads in local papers.[25] Within 10 days, the union capitulated and ended the strike.[26]

Two bargaining tactics were central to this event. UAW workers practiced a tactic called "pattern bargaining," in linking their demands with those of UAW workers at Deere & Co.[27] Caterpillar used the threat of permanent replacement of union workers who did not return under its terms. The resolution of the Caterpillar strike may well have shown that threat of permanent replacement, at least for now, is a more powerful tactic than pattern bargaining.

Part of the strategy of pattern bargaining, which had been successfully used in the auto industry for three decades, is to target key firms that have the most to lose from a strike. For example, the UAW might select a Chrysler plant for a strike, because sales of that plant's products are high and continuing production is critical. Because of the potential economic loss to Chrysler, the company accedes to the union demands. The UAW then uses that settlement as precedent in negotiations at plants of other U.S. auto makers, even when their

Table 3

State and Local Government Employment and State and Local Government Unionized Employment, in Selected States, 1982 and 1987

(In Thousands)

State	State and Local Govt. Employment		State and Local Govt. Unionized Employment		Employment Growth Rates 1982-1987		Rank by Growth Rates	
	1982	1987	1982	1987	Total	Unionized	Total	Unionized
South Carolina[1]	175.9	202.2	16.0	26.2	15.0%	63.7%	3	1
North Dakota[1]	49.3	54.0	9.8	14.0	9.5	42.9	26	2
Florida[1]	533.5	596.7	144.4	205.3	11.8	42.2	12	3
New Hampshire	51.4	56.8	18.2	23.0	10.5	26.4	21	4
Nevada[1]	49.8	55.3	18.5	22.2	11.0	20.0	17	5
Arizona[1]	**167.4**	**192.6**	**38.9**	**44.8**	**15.1**	**15.2**	**2**	**10**
California	1,395.9	1,532.1	591.6	668.8	9.8	13.0	25	15
New Mexico	91.0	103.2	17.1	19.1	13.4	11.7	7	20
Utah	89.0	100.2	33.8	34.3	12.6	1.5	9	37
Colorado	187.4	210.9	54.4	54.9	12.5	0.9	10	40

Note: 1) Right-to-work state

Source: *Census of Governments*, U.S. Dept. of Commerce, Bureau of Census 1988, 1991

products are not in exceptionally high demand.

Also at issue in the Caterpillar negotiations were elements that potentially pit younger workers against older workers. One of the Caterpillar proposals was to pay less to new hires at parts-distribution centers than older workers in the same jobs. The union demand was to have the same wage scales for all union members.[28]

The company proposal, if made effective, would have weakened solidarity of the union. In addition, there were plenty of high school graduates in Peoria who were more than willing to cross the union picket lines to accept jobs with Caterpillar at half the union wage rate.[29] And since the terms of Caterpillar's last offer were essentially those adopted, it appears the two-tiered pay system was established.

Unions' Future Seems Unclear

Final resolution of the Caterpillar strike and other present trends suggest harder times ahead for unions. Without legislation to quell the power of permanent replacement of strikers, more and more firms will likely use the strategy to weaken unions' influence. Even the "threat" of permanent replacement of striking union workers is a strong deterrent against the use of strikes. And U.S. Department of Labor data indeed confirm that strikes have been dwindling in number over the years (see Table 5).[30]

Many would argue that fewer strikes are good for both workers and employers, since both sides lose money during strike periods. Some even argue that higher union wages do not make up for the costs of past strikes by unions.

For example, suppose a workforce of 500 earning the current average gross wage for Arizona manufacturing workers, $450 a week, strikes to win a 5 percent wage increase. If the strike lasts 10 weeks, each worker has lost $4,500 of pay.

The 5 percent increase will provide each employee an additional $22.50 per week, or $1,170 a year. Therefore, even if the company capitulates to the full 5 percent, it would take a worker almost four years to recover the lost wages (not including other wage raises during that four-year period or money received from the union during the strike).

One cannot overlook the fact, however, that many improvements in employees' working conditions have been won by strikes. While "enlightened" employers may offer additional gains to workers in exchange for improved productivity, the market place is a hard task master.

Always lurking in the background is the potential for employers to compete at the cost of worker well-being. Lower wages, after all, may make it easier for a firm to sell its products at

lower prices and thus be better able to compete in the marketplace.

But lower wages are a cost to workers that lowers their living standards. While union members cannot expect to be protected from the risks of the market any more than employers can, they can work to insure that employers act responsibly.

Unions and World Competition

It is easy to argue that higher wages and better working conditions add to the cost of products, making them less competitive with those of other countries.

Thomas Karier of Eastern Washington University contends unions are not a significant factor in a country's ability to be competitive. Karier points out that the United States has among the lowest unionization rates overall in the world today. He argues further that Japan, Canada, and Germany (formerly West Germany) together account for most of the U.S. trade deficit and have higher unionization rates and stronger unions than in the United States.[31]

Karier's argument is disputed by Fariborz Ghadar of George Washington University. Ghadar argues that Karier's reasoning is too simplistic and overlooks the fact that industries where the United States is most competitive include biotechnology, aircraft, and computers. These industries, he contends, are the least unionized.[32]

There is probably some merit to both arguments. But even if the most competitive U.S. products are from industries in which unions are less strong, U.S. workers may reject the idea that the only way to compete in a global economy is to give up many of the benefits unions have won.

U.S. workers are not likely to easily accept the loss of hard-fought benefits and worker protections, such as fully or partly paid health insurance and grievance procedures. That's because strongly unionized countries like Germany and Japan have shown that companies producing products of high quality can compete nearly anywhere in the world and provide high wages, good benefits, and humane working conditions.

Table 4

State and Local Goverment Unionized Employment, Ranked by Share of Total State and Local Government Employment, in Selected States, 1982 and 1987

	1982	Rank	1987	Rank
Hawaii	70.0%	2	69.5%	1
New York	78.5	1	66.1	2
Connecticut	66.7	4	64.6	3
Massachusetts	68.8	3	63.9	4
New Jersey	56.3	7	58.3	5
California	42.4	16	43.7	15
Nevada	37.2	19	40.1	19
Utah[1]	38.0	18	34.2	23
Colorado	29.0	27	26.0	29
Arizona[1]	**23.2**	**35**	**23.3**	**35**
New Mexico	18.7	43	18.5	42

Note: 1) Right-to-work state

Source: *Census of Governments*, U.S. Dept. of Commerce, Bureau of Census, 1988, 1991

Unions and Economic Development

Economic-development officials often consider areas of low unionization an enticement for companies wanting to relocate. Indeed, as an institution that has met with many firms considering relocation to Arizona, DES, Research Administration can affirm that unionization is a top concern of executives searching for a new location. Questions about local union strength are probably second only to questions about labor costs.

Given the statistics of low manufacturing unionization rates cited earlier in this article, Arizona should then be able to outperform all but a handful of other states in attracting new manufacturing firms. There is some support for this hypothesis in the tables ranking states by manufacturing job growth and manufacturing union growth.

Between 1984 and 1989, while Arizona ranked high (13th) in total manufacturing employment growth, it ranked fairly low (39th) in factory union growth. Michigan, on the other hand, ranked low (30th) in manufacturing job growth, but very high (third) in factory union growth (one of only four states where union growth was positive).

Yet, if the hypothesis, "low unionization attracts industry" is true, why does Arizona rank very low (41st as of February 1992) among states in percentage of manufacturing employment and even lower (48th) in percentage of manufacturing union membership? On the opposite end, Michigan ranks highest in percentage of factory union membership, and also high (7th) in manufacturing as a percent of total payroll employment.

Perhaps historical patterns, rather than present union concentration relationships explain the paradox. Michigan, after all, began its automobile manufacturing growth in

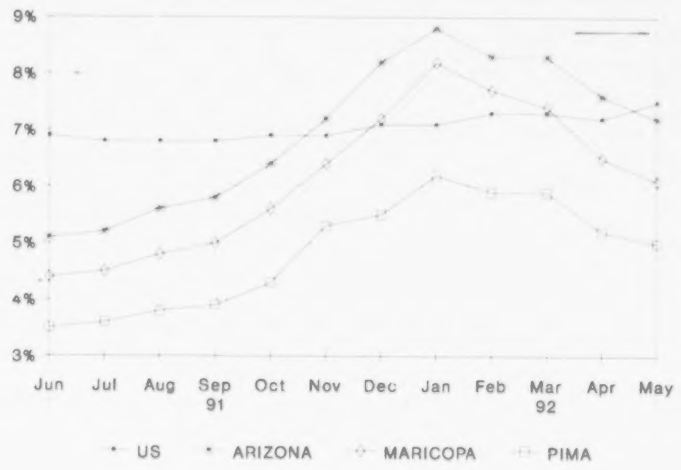
(continued on page 15)

State Jobless Rate Dipped Below U.S. Average in May

Arizona's seasonally adjusted unemployment rate declined four-tenths of one percent to 7.2 percent in May, while the national rate increased three-tenths of a percent to 7.5 percent. This was the first time since October 1991 that Arizona's jobless rate was below the national rate. Meanwhile, the corresponding rate was down for all of Arizona's counties, except Greenlee, where the rate increased nine-tenths of one percent to 9.7 percent. The seasonally adjusted unemployment rates ranged from a high

Figure 1

U.S., Arizona, Maricopa County, and Pima County Unemployment Rates (Seasonally Adjusted), June 1991-May 1992



Source: Arizona Dept. of Economic Security, Research Administration, June 1992

ARIZONA'S WORKFORCE

of 21.7 percent in Yuma County to a low of 5 percent in Pima County.

The state's total employment decreased by 14,600 in May, due in part to fewer multiple jobholders and a decrease in the number of self-employed. The number of unemployed in Arizona also declined in May, by 8,200, which follows April's decline of 16,500. Correspondingly, there were fewer unemployment insurance claims filed in May and a decline in the number of people moving into Arizona seeking employment.

Arizona's non-farm wage and salary employment declined in May by 3,200, which follows April's revised figures showing an increase of 1,100. Over-the-year, non-farm wage and salary employment increased by a modest 3,000 jobs.

Statewide, major industry groups posting over-the-month payroll employment gains were manufacturing, mining, and construction. Employment losses, on the other hand, occurred in transportation, communications, and public utilities (TCPU); trade; services; and government. FIRE remained unchanged over-the-month.

Arizona's manufacturing industry managed to show its first over-the-month employment gain in eight months, albeit a weak one, by adding 100 jobs in May. Although the durable-goods group showed no change in May from April's level, this represents the first time in 18-straight months that the durable-goods group did not show an over-the-year employment loss.

Non-durable goods employment gained 100 jobs, with increases in the printing, paper, and plastics sectors. And gains in the chemicals sectors managed to offset much of the losses in the apparel and food sectors.

Within the combined durable and non-durable-goods group, the only sector experiencing job losses in May was aircraft and missiles, which lost 500. For the month, all of Arizona's manufacturing subindustries experienced average growth, except for aircraft and missiles. In Maricopa County, manufacturing employment declined by 200 in May, primarily due to the loss of 200 jobs in durable goods. Manufacturing in Pima County gained 100 jobs for the month.

For the state as a whole, construction employment increased by 800 in May. Although the monthly gains were weaker than increases the prior two months, all three subindustry sectors (heavy and general construction, and special trades) experienced employment growth. Once again, special trades led the way. Through May 1992, Arizona's construction industry as a whole averaged over-the-year employment growth of 1.5 percent.

In Maricopa County, construction employment increased by 500 with most of the gain in special trades. Employment in heavy construction was down slightly, while general construction employment showed fairly strong gains in May. Pima County construction grew by 100 jobs in May.

Trade Continues Weakness

For the month, Arizona's trade industry employment declined by 1,100 (900 in retail trade), the fifth-consecutive, over-the-month decline. That brought over-the-year job losses to 1,700, the largest over-the-year decline in trade since February 1983.

The largest job losses in retail trade occurred in food stores, which lost 500, while the largest gain (100) was

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Table 1
Arizona Labor Force, Employment, and Unemployment Data, May 1992[a]

(In Thousands)

	May 1992[b]	Apr. 1992[c]	May 1991	Monthly/Yearly Change: Apr. '92 - May '92	Monthly/Yearly Change: May '91 - May '92
Total Civilian Labor Force[d]	1715.8	1738.6	1717.0	-22.8	-1.2
Total Unemployment	120.5	128.7	82.6	-8.2	37.9
Unemployment Rate	7.0%	7.4%	4.8%	—	—
Unemployment Rate (Seasonally Adjusted)[e]	7.2%	7.6%	5.0%	—	—
Total Employment	1595.3	1609.9	1634.4	-14.6	-39.1
Total Wage and Salary Employment[f,g]	1507.5	1510.6	1504.4	-3.1	3.1
Private Sector	1222.3	1224.5	1224.9	-2.2	-2.6
Government	285.2	286.1	279.5	-0.9	5.7
Goods-Producing Industries	262.3	261.3	266.5	1.0	-4.2
Manufacturing	168.2	168.1	176.2	0.1	-8.0
Total Durable Goods	124.6	124.6	132.8	0.0	-8.2
Stone, Clay, and Glass	5.3	5.2	5.6	0.1	-0.3
Primary and Fabricated Metals	13.6	13.5	14.2	0.1	-0.6
Primary Metals	5.6	5.6	6.0	0.0	-0.4
Fabricated Metals	8.0	7.9	8.2	0.1	-0.2
Machinery	52.8	52.7	54.8	0.1	-2.0
Aircraft and Missiles	22.4	22.9	27.5	-0.5	-5.1
Lumber and Wood Products (Excluding Furniture)	6.6	6.4	6.3	0.2	0.3
Total Non-durable Goods	43.6	43.5	43.4	0.1	0.2
Food and Kindred Products	10.0	10.0	9.5	0.0	0.5
Printing and Publishing	15.6	15.5	15.7	0.1	-0.1
Mining and Quarrying	14.3	14.2	13.4	0.1	0.9
Copper Mining	12.0	11.8	11.0	0.2	1.0
Construction	79.8	79.0	76.9	0.8	2.9
Service-Producing Industries	1245.2	1249.3	1237.9	-4.1	7.3
Transportation, Communications, and Public Utilities	78.8	79.7	81.0	-0.9	-2.2
Transportation	45.0	45.2	46.9	-0.2	-1.9
Communications and Public Utilities	33.8	34.5	34.1	-0.7	-0.3
Trade	371.9	372.9	373.5	-1.0	-1.6
Total Wholesale Trade	75.0	75.1	74.7	-0.1	0.3
Total Retail Trade	296.9	297.8	298.8	-0.9	-1.9
General Merchandise and Apparel	49.0	49.1	47.9	-0.1	1.1
Food Stores	49.9	50.4	50.1	-0.5	-0.2
Automotive and Service Stations	34.7	34.6	34.0	0.1	0.7
Eating and Drinking Places	105.3	105.4	107.6	-0.1	-2.3
Finance, Insurance, and Real Estate	91.8	91.8	93.2	0.0	-1.4
Services and Miscellaneous	417.5	418.8	410.7	-1.3	6.8
Hotels and Lodging Places	40.1	40.5	41.3	-0.4	-1.2
Business Services	86.8	86.6	84.2	0.2	2.6
Health Services	108.4	108.2	104.1	0.2	4.3
Government	285.2	286.1	279.5	-0.9	5.7
Federal	45.7	45.3	45.8	0.4	-0.1

Notes and Source: See Table 3

Table 2
Maricopa County Labor Force, Employment, and Unemployment Data, May 1992[a]

(In Thousands)

	May 1992[b]	Apr. 1992[c]	May 1991	Monthly/Yearly Change: Apr. '92 - May '92	Monthly/Yearly Change: May '91 - May '92
Total Civilian Labor Force[d]	1050.2	1060.5	1066.9	-10.3	-16.7
Total Unemployment	62.8	67.7	43.5	-4.9	19.3
Unemployment Rate	6.0%	6.4%	4.1%	—	—
Unemployment Rate (Seasonally Adjusted)[e]	6.1%	6.5%	4.2%	—	—
Total Employment	987.4	992.8	1023.4	-5.4	-36.0
Total Wage and Salary Employment[f,g]	981.8	983.2	987.1	-1.4	-5.3
Private Sector	757.5	759.5	770.8	-2.0	-13.3
Government	147.2	146.6	144.0	0.6	3.2
Goods-Producing Industries	402.1	403.5	415.6	-1.4	-13.5
Manufacturing	125.4	125.6	132.2	-0.2	-6.8
Total Durable Goods	94.4	94.6	101.1	-0.2	-6.7
Stone, Clay, and Glass	3.0	2.9	3.2	0.1	-0.2
Primary and Fabricated Metals	9.3	9.3	9.8	0.0	-0.5
Machinery	43.9	43.9	45.6	0.0	-1.7
Total Non-durable Goods	31.0	31.0	31.1	0.0	-0.1
Food and Kindred Products	7.1	7.2	6.9	-0.1	0.2
Printing and Publishing	11.0	10.9	11.2	0.1	-0.2
Mining and Quarrying	0.8	0.7	0.8	0.1	0.0
Construction	52.9	52.4	50.3	0.5	2.6
Service-Producing Industries	802.7	804.5	803.8	-1.8	-1.1
Transportation, Communications, and Public Utilities	55.0	55.3	57.9	-0.3	-2.9
Transportation	32.9	33.1	35.4	-0.2	-2.5
Communications and Public Utilities	22.1	22.2	22.5	-0.1	-0.4
Trade	243.8	244.8	248.0	-1.0	-4.2
Total Wholesale Trade	56.9	56.8	57.8	0.1	-0.9
Total Retail Trade	186.9	188.0	190.2	-1.1	-3.3
General Merchandise and Apparel	30.9	31.1	30.6	-0.2	0.3
Food Stores	31.5	31.9	32.3	-0.4	-0.8
Automotive and Service Stations	21.3	21.4	21.0	-0.1	0.3
Eating and Drinking Places	67.1	67.5	68.8	-0.4	-1.7
Finance, Insurance, and Real Estate	73.2	73.2	74.3	0.0	-1.1
Services and Miscellaneous	283.5	284.6	279.6	-1.1	3.9
Hotels and Lodging Places	24.0	24.6	24.7	-0.6	-0.7
Business Services	70.4	70.2	68.2	0.2	2.2
Health Services	70.4	70.0	67.3	0.4	3.1
Government	147.2	146.6	144.0	0.6	3.2

Notes and Source: See Table 3

Table 3
Pima County Labor Force, Employment, and Unemployment Data, May 1992[a]

(In Thousands)

	May 1992[b]	Apr. 1992[c]	May 1991	Monthly/Yearly Change: Apr. '92 - May '92	Monthly/Yearly Change: May '91 - May '92
Total Civilian Labor Force[d]	322.6	325.2	313.7	-2.6	8.9
Total Unemployment	15.3	16.5	10.0	-1.2	5.3
Unemployment Rate	4.7%	5.1%	3.2%	—	—
Unemployment Rate (Seasonally Adjusted)[e]	5.0%	5.2%	3.4%	—	—
Total Employment	307.3	308.7	303.7	-1.4	3.6
Total Wage and Salary Employment[f,g]	268.2	267.5	261.8	0.7	6.4
Private Sector	203.7	203.3	199.5	0.4	4.2
Government	64.5	64.2	62.3	0.3	2.2
Goods-Producing Industries	41.3	41.1	41.1	0.2	0.2
Manufacturing	24.0	23.9	24.8	0.1	-0.8
Total Durable Goods	18.6	18.6	19.7	0.0	-1.1
Total Non-durable Goods	5.4	5.3	5.1	0.1	0.3
Mining and Quarrying	2.3	2.3	2.3	0.0	0.0
Construction	15.0	14.9	14.0	0.1	1.0
Service-Producing Industries	226.9	226.4	220.7	0.5	6.2
Transportation, Communications, and Public Utilities	10.6	10.6	9.7	0.0	0.9
Transportation	6.0	6.0	5.3	0.0	0.7
Communications and Public Utilities	4.6	4.6	4.4	0.0	0.2
Trade	63.0	62.7	61.6	0.3	1.4
Total Wholesale Trade	9.2	9.2	8.8	0.0	0.4
Total Retail Trade	53.8	53.5	52.8	0.3	1.0
General Merchandise and Apparel	7.9	7.9	7.7	0.0	0.2
Food Stores	8.2	8.3	8.1	-0.1	0.1
Automotive and Service Stations	5.7	5.6	5.5	0.1	0.2
Eating and Drinking Places	19.4	19.3	19.3	0.1	0.1
Finance, Insurance, and Real Estate	11.8	11.7	11.6	0.1	0.2
Services and Miscellaneous	77.0	77.2	75.5	-0.2	1.5
Hotels and Lodging Places	6.8	7.0	6.8	-0.2	0.0
Business Services	12.2	12.3	11.7	-0.1	0.5
Health Services	23.1	23.1	22.5	0.0	0.6
Government	64.5	64.2	62.3	0.3	2.2

Notes: a) Data on labor force, total unemployment, total employment, and seasonally adjusted unemployment rate should not be used for economic-assistance programs. Data for economic-assistance programs are available by contacting DES, Research Administration
b) Preliminary and subject to revision following month
c) Revised
d) Adjusted to Current Population Survey (CPS) to reflect place of residence
e) Normal seasonal variations have been eliminated to reflect underlying trends
f) By place of work; does not include agricultural workers, self-employed, unpaid family members, and domestic workers
g) Detail may not add up correctly due to rounding
h) Rounded to the nearest one-quarter

Source: *Prepared by the Arizona Dept. of Economic Security, Research Administration, in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics, June 1992*

Table 4

Non-metropolitan Counties' Labor Force, Employment, and Unemployment Data, May 1992[a,b]

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
Total Civilian Labor Force[d]	15,125	36,650	42,950	13,900	8,350	3,425	7,275
Total Unemployment	2,025	2,975	3,750	1,525	775	325	600
Unemployment Rate	13.4%	8.1%	8.7%	11.0%	9.1%	9.7%	8.3%
Unemployment Rate (Seasonally Adjusted)[e]	15.1%	8.4%	9.6%	12.3%	9.5%	9.7%	10.2%
Total Employment	13,100	33,675	39,200	12,375	7,575	3,100	6,675
Total Wage and Salary Employment[f,h]	15,425	27,150	40,775	12,250	5,275	3,425	3,525
Private Sector	9,575	15,325	29,425	9,125	3,100	2,850	2,525
Government	5,850	11,825	11,350	3,125	2,175	575	1,000
Goods-Producing Industries	775	2,225	4,750	3,375	400	2,300	550
Manufacturing	500	1,175	3,100	1,425	200	25	225
Mining and Quarrying	25	125	150	1,175	0	2,025	50
Construction	250	925	1,500	775	200	250	275
Service-Producing Industries	14,650	24,925	36,025	8,875	4,875	1,125	2,975
Transportation, Communications, and Public Utilities	1,675	1,500	2,500	450	175	50	150
Trade	1,700	5,700	10,625	2,700	1,500	325	1,200
Finance, Insurance, and Real Estate	400	625	700	225	125	25	125
Services and Miscellaneous	5,025	5,275	10,850	2,375	900	150	500
Government	5,850	11,825	11,350	3,125	2,175	575	1,000

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
Total Civilian Labor Force[d]	38,800	27,125	38,950	11,925	40,775	57,750
Total Unemployment	3,275	2,950	3,775	1,575	2,825	16,050
Unemployment Rate	8.4%	10.8%	9.7%	13.3%	6.9%	27.8%
Unemployment Rate (Seasonally Adjusted)[e]	9.2%	13.3%	9.9%	16.7%	7.5%	21.7%
Total Employment	35,525	24,175	35,175	10,350	37,950	41,700
Total Wage and Salary Employment[f,h]	27,800	21,350	31,000	11,400	28,500	29,775
Private Sector	22,625	14,575	21,100	9,475	23,150	21,350
Government	5,175	6,775	9,900	1,925	5,350	8,425
Goods-Producing Industries	5,175	3,475	9,125	1,300	5,575	3,025
Manufacturing	2,575	1,600	2,900	1,000	2,525	1,675
Mining and Quarrying	50	1,075	5,500	0	1,025	0
Construction	2,550	800	725	300	2,025	1,350
Service-Producing Industries	22,625	17,875	21,875	10,100	22,925	26,750
Transportation, Communications, and Public Utilities	1,375	1,475	875	725	1,025	1,300
Trade	8,575	4,475	5,600	5,325	8,150	9,150
Finance, Insurance, and Real Estate	1,225	525	600	275	1,000	1,025
Services and Miscellaneous	6,275	4,625	4,900	1,850	7,400	6,850
Government	5,175	6,775	9,900	1,925	5,350	8,425

Notes and Source: See Table 3

Table 5
Estimated Hours and Earnings of Production Workers, by Selected Industry Groups, May 1992[a]

Arizona

Industry	Average Weekly Earnings			Average Weekly Hours			Average Hourly Earnings		
	May 1992[b]	Apr. 1992[c]	May 1991	May 1992[b]	Apr. 1992[c]	May 1991	May 1992[b]	Apr. 1992[c]	May 1991
Manufacturing	$447.17	$443.07	$423.86	40.8	40.5	40.1	$10.96	$10.94	$10.57
Aircraft and Missiles	662.40	658.74	648.60	45.0	44.6	44.7	14.72	14.77	14.51
Food and Kindred Products	366.05	356.46	353.07	38.9	39.0	39.1	9.41	9.14	9.03
Primary Metals	517.88	488.00	500.35	41.2	40.0	38.4	12.57	12.20	13.03
Machinery	458.49	463.90	416.47	40.9	40.8	40.2	11.21	11.37	10.36
Copper Mining	633.82	654.75	645.65	43.0	44.3	43.9	14.74	14.78	14.73
Construction	459.16	454.10	438.00	38.2	38.0	36.9	12.02	11.95	11.87
Public Utilities	787.95	788.40	752.12	42.5	43.8	43.4	18.54	18.00	17.33
Retail Trade[d]	285.69	281.42	265.51	32.8	32.8	32.3	8.71	8.58	8.22
Wholesale Trade	398.53	395.77	403.64	38.1	37.8	37.9	10.46	10.47	10.65

Maricopa County

Industry	Average Weekly Earnings			Average Weekly Hours			Average Hourly Earnings		
	May 1992[b]	Apr. 1992[c]	May 1991	May 1992[b]	Apr. 1992[c]	May 1991	May 1992[b]	Apr. 1992[c]	May 1991
Manufacturing	$478.26	$473.30	$443.90	42.1	41.3	40.8	$11.36	$11.46	$10.88
Construction	478.17	472.53	466.50	38.5	38.2	37.5	12.42	12.37	12.44
Retail Trade[d]	299.80	299.04	277.16	33.2	33.6	32.8	9.03	8.90	8.45
Wholesale Trade	405.77	402.38	430.16	38.1	37.5	37.9	10.65	10.73	11.35

Pima County

Industry	Average Weekly Earnings			Average Weekly Hours			Average Hourly Earnings		
	May 1992[b]	Apr. 1992[c]	May 1991	May 1992[b]	Apr. 1992[c]	May 1991	May 1992[b]	Apr. 1992[c]	May 1991
Manufacturing	$438.48	$422.93	$405.16	40.6	39.6	39.8	$10.80	$10.68	$10.18
Construction	408.11	404.05	382.67	36.8	36.9	35.4	11.09	10.95	10.81
Public Utilities	664.26	659.74	628.31	42.8	42.4	41.5	15.52	15.56	15.14

Notes: a) Estimates are based on a sample of full- and part-time production and related workers whose payroll and hours are reported for the pay period that includes the 12th of the month
b) Preliminary and subject to revision following month
c) Revised
d) Excludes eating and drinking places

Source: *Prepared by the Arizona Dept. of Economic Security, Research Administration, in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics, June 1992*

ARIZONA LABOR MARKET INDICATORS

"Arizona Labor Market Indicators," a quick glimpse at data relevant to Arizona's job market, will appear most months in *Arizona Economic Trends*. Some of the data that had appeared each month in the *Arizona Labor Market Information Newsletter*, such as the U.S. and Phoenix-area consumer price indices, will appear at least once a quarter in *Arizona Economic Trends*. If you need this information more frequently, contact Research Administration at 542-3871.

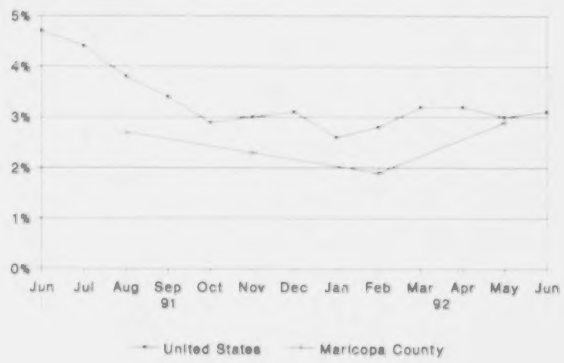
Figure 1

Arizona Continued and New Unemployment Insurance Claims, June 1991-June 1992

Source: *Arizona Dept. of Economic Security, Research Administration, July 1992*

Figure 2

Percentage Change in U.S. (Monthly) and Maricopa County (Quarterly) Consumer Price Indecies, June 1991-June 1992



Sources: *U.S. Dept. of Labor, Bureau of Labor Statistics, July 1992, and Arizona State University, Economic Outlook Center, July 1992*

State Jobless Rate Slipped to 7.2% in May

(continued from page 7)

in automotive and service stations. Although eating and drinking places lost only 100 jobs statewide in May, this sector lost 2,300 jobs over the year, the largest over-the-year decline in more than 10 years.

Arizona's transportation, communications, and public utilities (TCPU) industry group experienced a decline of 900 jobs in May. Some of these losses were associated with the highly publicized layoffs at America West Airlines. Maricopa County experienced a significant proportion of these losses with transportation employment down by 200 over the month.

Arizona's finance, insurance and real estate (FIRE) employment was essentially unchanged in May. Losses in the real estate and insurance sectors were offset by gains in the finance sector. A slight gain of 100 jobs occurred in Pima County.

Arizona's services industry experienced a greater-than-average seasonal decline of 1,300 jobs in May. A drop of 300 is normal. Personal services accounted for roughly 80 percent of the decline, with most of the losses occurring in Maricopa County.

Arizona government employment declined, too, in May. Statewide, school employment was responsible for most of the loss. Seasonal-related declines occurred in the elementary, secondary, and college sectors as employment is typically pared for the summer.

Overall in May, Arizona continued to show moderate employment growth in industries such as construction and manufacturing. But losses continued in defense-related manufacturing sectors as a result of federal defense cutbacks, while other industries began to benefit from a slowly emerging, yet cautious, consumer.

In general, the manufacturing group, sans defense-related sectors, appears to be showing less weakness, while Arizona's retail industry is showing greater weakness than it has for more than a decade. Also, Research Administration expects to see continuing improvement in construction as long as interest rates and inflation remain in check. AET

—Don Webbey
RA Economist

Industry Update

"Industry Update" — featured each month as a service to our readers — is a compilation of public announcements and articles from newspapers and periodicals about business events significant to Arizona labor markets. Due to space limitations, however, an exhaustive list of industry news is not feasible. In addition, Arizona Economic Trends is not responsible for incorrect information reported by these sources.

Manufacturing

Birmingham Steel, which decided in November 1990 against building a steel mill 50 miles west of Phoenix, has **changed its mind and is now going through the process of obtaining government approval**. The movement toward a free-trade agreement with Mexico and the state's closeness to California, which uses two-thirds of steel consumed in the West, were the two primary reasons Birmingham changed its mind. If given approval, the operation, which would include a mill and plant to melt scrap mill, would likely be ready to roll in two to three years.

General Semiconductor Industries plans to move its Tempe operation to Macroom, Ireland, and will **lay off 160 employees** by the end of July. The Tempe facility, which makes products for computers and telecommunications equipment, is providing a severance package and job-placement services.

Intel Corp., which employs about 4,000 people in the Valley, is **considering Arizona and several other states for a $1 billion plant computer-chip plant** that will eventually lead to between **750 to 5,000 jobs**. Intel's 160-acre campus in Chandler would be the likely location in Arizona. A decision is expected by the end of the year, with an anticipated operational date of 1995.

Continuing its downsizing mode, the **Garrett Engine Division** of Allied-Signal Inc. **laid off 80 workers**, primarily engineers, the end of June. The division, which makes engines for military, commercial, and business aircraft, has eliminated about 1,000 jobs in 1991 and about 400 this year.

Construction

The **Westridge Mall**, at 75th Avenue and Thomas Road in west Phoenix, **and the surrounding area have and will see significant changes** over the next couple of years. At the beginning of 1993, Westridge Mall will begin construction on an 80,000-square-foot Mervyn's and 92,000-square-foot Montgomery Wards, with expected openings the following October. In addition, the 160-acre Westridge Esplanade at 75th Avenue and Encanto Boulevard, which opened last year with a new Wal-Mart, will open Phar-Mor and PetSmart stores later this year. And a new Target store, at 75th Avenue and McDowell, has been proposed.

Bell Road between 75th and 83rd avenues is another hot bed of retail development. Besides work begun on Arrowhead Towne Center at 75th Avenue and Bell Road — a shopping mall with five department stores (see April 1992 newsletter) — several other stores are currently under development or ready to be built. A K mart store, expected to open in the fall, will be part of a 20-acre development at 77th Avenue and Bell Road, while Ross Dress for Less and Target stores will be first phase of the North Valley Power Center, a 555,000-square-foot project at 83rd Avenue and Bell Road. Also, a 230,000-square-foot Arrowhead Power Center, located at the same intersection, is expected to be developed in the near future.

Transportation, Communications, and Public Utilities

Seattle-based **Alaska Airlines** reversed engines and **decided against building a $50 to $70 million maintenance facility** which would have eventually created 2,000 jobs at an average wage of $40,000 a year. Phoenix and Tucson were among five cities still in the hunt for the operation when Alaska made its announcement in late June. A sluggish airline industry was given as the main reason for abandoning plans for the facility.

Evergreen Air Center Inc. was awarded $1 million in loans to help **expand its airline-repair facilities in Marana** just north of Tucson. The loans, partially funded by the Arizona Commerce and Economic Development Commission, will help Evergreen add hangar space to accommodate wide-body planes and create 440 mechanic jobs. Mechanics will be recruited from a number of community college programs in Arizona and from out-of-state.

Trade

As part of national reorganization plan, **Sears Roebuck and Co. will close its credit operation** at The Colonnade in Phoenix around mid-August and **transfer its 270 jobs** to a Sears' facility in Los Angeles. The move follows an announcement last April that 100 jobs at Sears' accounting center at The Colonnade will be eliminated by mid-1993. Sears announced in 1990 that it plans to cut about 40,000 jobs nationally.

A California company that designs and manufactures space-sattelite equipment is moving its headquarters from Manhattan Beach to Gilbert (1140 N. Fiesta Blvd.). **Spectrum Astro Inc. expects to initially employ about 35 people**, but then expand quickly with the addition of engineering and management personnel.

Services

Red River Opry, a country-and-western musical show, is expected to **open by the end of the year in a $2 million, 20,000-square-foot development** in the Papago Park Center on the southwest corner of Mill Avenue and Washington Street. Red River Opry will feature a 1,000-seat theater and offer two-hour performances six nights a week. About 35 to 40 people will eventually be employed, including 12 to 14 full-time actors. AET

State of Unions in U.S., Arizona Not Good

(continued from page 6)
the early 1900s before unions were well-established in the automobile industry.

It may be more of a "which came first, the chicken or egg" question. In other words, perhaps it takes a large share of industry to give rise to a high proportion of unionization. If that is true, Arizona may become more unionized after it attracts more industry here.

Arizona's recently released Strategic Plan for Economic Development (ASPED) does not mention the subject of unionization. It does, however, talk about the need to compete primarily for "quality jobs," not just *any* jobs. Quality jobs are defined by ASPED as those with adequate compensation, career- and personal-development opportunities, advancement opportunities, and flexible employee benefits.[33]

This goal is not unlike the goal of unions over the years. While unions have achieved this goal in many places — sometimes by resorting to the economic force of strikes — Arizona economic planners hope to do the same by educating Arizona employers on the benefits (e.g., better loyalty and productivity) of providing quality jobs. "Quality jobs," says ASPED, "are the key to a high standard of living and quality of life for Arizonans."[34]

Perhaps unions and economic development have more in common than economic developers realize. With union membership in the private sector on a fast decline in Arizona (and nationally), it will be interesting to see if implementation of ASPED can achieve the goal of providing quality jobs by the means ASPED proposes. If not, maybe in another generation there will be a resurgence of union popularity.

Finally, the issue of improving economic well-being by the method of educating employers to provide quality jobs, or by promoting unionization, has national implications. In a global economy, the more significant competing geographic unit is the nation rather than any of a nation's political subdivisions.

The economic-development policies and degree of unionization of Arizona versus those of Michigan have less significance on that scale. Rather, the nation must decide how it will nurture industry, and whether it will assist industry in its competition with industries of other countries. Surely, the national goal should be improved living standards, higher income, and availability of quality jobs, as much as it is the states' goal.

—Ron Simon,
RA Economic Analysis Manager

Table 5

U.S. Work Stoppages and Related Data, 1970, 1980, 1990, and 1991

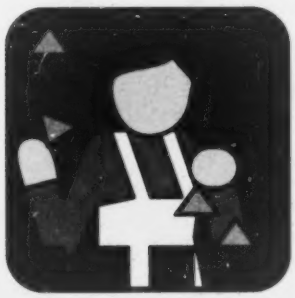
	1970	1980	1990	1991
Work Stoppages[1]	381	187	44	40
Workers Affected	2,468,000	795,000	185,000	392,000
Days Idled	52,761,000	20,844,000	5,926,000	4,584,000
Pct. of Time Lost	0.29%	.09%	.02%	.02%

Note: 1) Includes strikes and lockouts

Source: *U.S. Dept. of Labor, Bureau of Labor Statistics*

Notes:

1. "Union Members in 1991," *USDL News Release*, U.S. Department of Labor, February 10, 1992, p.1.
2. "Manufacturing Climate Study-1989," Leo Troy, Grant Thornton, Inc.
3. "Right to work" is a generic name for state laws making it illegal to require a worker to join a union in order to become employed. In Arizona, the governing law is Article 25 of the state constitution, which became effective on November 25, 1946.
4. "Union Members in 1991," *USDL News Release*, U.S Department of Labor, February 10, 1992, Table 3.
5. "Measuring Union-Nonunion Earnings Differences," Kay E. Anderson, Philip M. Doyle, and Albert E. Schwenk, *Monthly Labor Review*, June 1990, p.26.
6. "Labor Unions and Collective Bargaining," James D. Gwartney and Richard L. Stroup, "Economics: Private and Public Choice," Harcourt, Brace Jovanovich, 1987, pp. 608-609; and "Labor Unions and Their Economic Impact," Campbell R. McConnell, "Economics: Principles, Problems, and Policies," New York, McGraw-Hill Book Co., 1987, p. 789.
7. Ibid.
8. "Economics," Gwartney and Stroup, p. 605; and McConnell, p. 799.
9. Ibid.
10. Ibid.
11. The first call for an eight-hour day by a labor union was by the Machinists and Blacksmith Union at its 1859 annual convention in Philadelphia. "Labor Firsts in America," U.S. Dept. of Labor, Washington D.C., U.S. Government Printing Office, 1979, p.28.
12. "Public Employment: Labor-Management Relations," *1987 Census of Governments*, U.S. Bureau of Census, Washington, D.C., U.S. Government Printing Office, June 1991, pp. 2-27; and "Government Employment: Labor-Management Relations in State and Local Governments," *1982 Census of Governments*, Washington D.C.; U.S. Government Printing Office, June 1984, pp. 2-27.
13. "Labor Relations in the Public Sector," Richard C. Kearney, New York; Marcel



Dekker, Inc., 1984, p 9.

14. Ibid., p 14.

15. Ibid.

16. "One man, one vote" refers to the 1964 Supreme Court judgment in *Reynolds vs Sims*, 377 U.S. 533, making it illegal to model state legislatures after the national Congress by having the upper house of bicameral legislatures composed of the same number of legislators for political subdivisions (e.g., counties) regardless of the population of those subdivisions. Rather, new subdivisions (i.e., senatorial districts) must be created having nearly equal population, and these must be redrawn after each decennial census. The basis for the judgment was the Equal Protection Clause of the Constitution.

17. "Labor Relations," Kearney, p. 9.

18. Ibid., pp. 9-10.

19. The primary technological advancement was "electro-winning," a process of separating copper from ore by use of liquid acids and electrical current. This process was far less labor-intensive than the then-existent methods of using crushers and concentrators. Electro-winning became a commonly used process by the mid-1980s.

20. "A Striking Change: Replacement Hiring Raises Old Questions," Kathleen Ingley, *The Arizona Republic*, October 27, 1991, p. E2.

21. Ibid., p. E1.

22. Ibid.

23. "Moving Mountains on a Picket Line," Paul Glastris, *U.S. News and World Report*, April 20, 1992, p. 20.

24. "This Brawl Could Cost Cat a Couple of Its Lives," Kevin Kelly, *Business Week*, March 23, 1992, p. 82.

25. "Cat to Strikers: 'Show Up Or Else,'" Harris Collingwood, *Business Week*, April 13, 1992, p. 44.

26. "Members of the United Auto Workers Return to Work Monday ...," *The Associated Press*, printed in *The Phoenix Gazette*, April 21, 1992, p. B3.

27. "Cat Vs. the UAW — Setting the Record Straight," G.S. Flaherty, *Business Week*, March 30, 1992, p. 89.

28. "This Brawl ...", Kelly, *Business Week*, March 23, 1992, p. 82.

29. "Moving Mountains ...," Glastris, *U.S. News and World Report*, April 20, 1992, p. 20.

30. "Collective Bargaining, 1991: Recession Colors Talks," Michael H. Cimini and Susan L. Behrmann, *Monthly Labor Review*, January 1992, p. 22.

31. "Collective Bargaining, 1991: Recession Colors Talks, Carl Hartman, *The Associated Press*, printed in *The Arizona Republic*, December 28, 1990, p. E2.

32. Ibid.

33. "ASPED: Creating a 21st Century Economy: Arizona's Strategic Plan for Economic Development," SRI International, Vol. I, January 1992, p. V-35.

34. Ibid. AET

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